User's Meeting on National e-Manifest System

One Potomac Yard, Room S-1204/1206, 1st Floor
2777 S. Crystal Drive, Arlington, VA 22202

November 19 - 20, 2008

Meeting Summary

February 2009

Office of Resource Conservation and Recovery
U.S. Environmental Protection Agency

Table of Contents

Background and Purpose of Document

The U.S. Environmental Protection Agency (EPA) is in the early stages of developing a national electronic manifest system (referred to as the e-Manifest system). The e-Manifest system would be an alternative to the current paper-based procedures found in 40 CFR Parts 262 to 265.

On November 19 and 20, 2008, EPA held a meeting of state and industry representatives in Arlington, VA, to collect input on the design, development, and operation of the e-Manifest system. The meeting began with welcoming remarks by Betsy Devlin, Deputy Director of the Materials Recovery and Waste Management Division in EPA's Office of Resource Conservation and Recovery.[1] This was followed by a plenary discussion of the basic aspects of the e-Manifest approach and user needs. Participants then divided into section breakouts and worked on topics related to the e-Manifest for the rest of the day. The sections included:

- Section 1: e-Manifest Workflow, Business Process and Desired System Capabilities and Functional Requirements.
- Section 2: e-Manifest Administrative Requirements, Data Access Requirements, and Data Quality Requirements.

The sections reconvened on the second day of the meeting and continued their work. This was followed by a plenary session for the remainder of the meeting in which topics of general interest were discussed (*e.g.*, legacy systems).

Following is a summary of participants' comments (*i.e.*, recommendations, concerns, questions) at the meeting. Comments are summarized under headings corresponding to the topics discussed in the Section 1 and 2 breakout sessions and plenary sessions. Chapter I summarizes comments related to the Section 1 topics. Chapter II summarizes comments related to the Section 2 and plenary topics. Chapter III summarizes comments not otherwise addressed in Chapters I and II, primarily overarching comments that apply broadly to the e-Manifest. Chapter IV lays out next steps discussed at the end of the meeting. At the end of this document is a table of participants.

[1] On January 18, 2009, the Office of Solid Waste (OSW) was reorganized and changed its name to the Office of Resource Conservation and Recovery (ORCR).

Please note the following:

- Some discretion was used to determine the most appropriate headings under which to summarize a number of the comments.

- If a heading includes numerous comments, an overview of the comments is provided, followed by the comments themselves.

- During the meeting, the sections discussed a number of similar topics independently of each other (*e.g.*, system notifications). In general, their respective discussions are summarized separately in this document to preserve their context.

Summary of Comments at User Meeting

I. e-Manifest Workflow, Business Process and Desired System Capabilities and Functional Requirements

I.1 e-Manifest Lifecycle Status

Participants discussed the lifecycle of the electronic manifest as it passes through the chain of custody during shipment. The facilitator discussed the five statuses that the e-Manifest could track: Draft Electronic Manifest; Ready for Transport; In Transit; Received/In Process; Accepted.

Participants discussed whether there is a need for a status to represent waste that is received, but not yet processed, by the treatment, storage and disposal facility (TSDF). Mr. Baker stated that this additional status is not really necessary.

Mr. Conlon asked if it is useful to recognize all the subtasks for transporter activities in the diagram on Slide 30 of the presentation slides. (The slide shows the possible lifecycle of an electronic manifest indicated above.)

Mr. Burman stated that the states are focused on the chain of custody rather than change of status. Real-time status changes might not be necessary for states. A daily update could be sufficient.

I.2 Create/Update Generator Section of Electronic Manifest

Participants discussed their needs in creating and updating the Generator section of the electronic manifest:

- The system should provide flexibility to track different waste types that may be shipped (*e.g.*, non-hazardous wastes, polychlorinated biphenyls).
- Features should be provided in the system to assist the generator in preparing the electronic manifest (*e.g.*, pull down menus, use of existing data sources to help populate the manifest).
- Data validation and controls are needed to prevent, detect and correct errors and help ensure accuracy of data reported (*e.g.*, validate the waste quantities entered, prevent the creation of duplicate electronic manifests).
- Simplification of the exception reporting procedures is needed for electronically manifested waste.

- The system needs to enable the transporter or designated TSDF to prepare the Generator section on behalf of their generator customers.
- The system needs to generate a unique Manifest Tracking Number on each manifest.

Participants discussed the use of existing data sources such as RCRAInfo and the Department of Transportation (DOT) Safety and Fitness Electronic Records System (SAFER) to help with the completion of the manifest. RCRAInfo is an EPA database of entities subject to the RCRA hazardous waste program (*e.g.*, generators, TSDFs), including their EPA Identification (ID) Number, location, and other descriptive information. SAFER is a database that provides an electronic record a company's identification and other information. Participants noted some limitations of these sources (*e.g.*, SAFER does not include railroads) but agreed that existing data sources could be helpful in completing the manifest.

Mr. Baker suggested that the e-Manifest system should be able to track and handle non-hazardous waste as well as hazardous waste.

Mr. Burman suggested that EPA should add functionality for the e-Manifest system to track different types of wastes effectively, *e.g.*, consistency with regulations applicable to polychlorinated biphenyls (PCBs), a check box for different types of waste shipments (universal waste, imports/exports, etc.).

Mr. Gray said it is more helpful to have a comments section within the e-Manifest to report manifest exceptions than mailing a letter to the state, as currently required by the regulations.

Mr. Robbins said the system needs data validation on the weight of the waste that is being shipped. Too often, generators enter estimates or guesses of the actual weight of the waste instead of using more scientific approaches. If the generator's estimate is highly inaccurate (*e.g.*, greater than 10% inaccurate), this can cause problems for the TSDF in accepting the shipment.

Mr. Moskowitz said that there is no need to record a trailer number for trucks on the electronic manifest because not all trailers have numbers and tracking that information would be difficult.

Participants decided that there is a need to detect and prevent duplicate electronic manifests from being created.

Ms. Keillor stated that the system should delete draft manifests that were never signed after a certain number of days.

Participants agreed on the need for the e-Manifest to allow transporters and TSDFs to prepare the electronic manifest on behalf of their generator customers.[2] Mr. Appelt expressed his desire to be able to pull information from the e-Manifest into a portable device so that transporters can pre-populate the Generator section of the manifest.

Mr. Beaulac said that drop-down menus could be very helpful to generators in completing the manifest.

Mr. Robbins indicated his desire to see how the e-Manifest system will document the "speciation" of a waste's chemical components.

Ms. McDonough stated that the transaction number that is assigned when generators and transporters agree on shipment and create an electronic manifest needs to be captured by the system and have a unique identifier.

Participants discussed the need for assigning a unique Manifest Tracking Number (MTN) to each electronic manifest.[3] Mr. Gray said that the MTN should correspond to the state in which the waste was generated and be unique. Ms. McDonough stated that the paper and electronic manifest must use the same numbering system.

Mr. Robbins discussed the need for electronic manifest templates to pre-fill the electronic manifest for frequent shipments using the same transporter and TSDF.

I.3 Upload to e-Manifest

Participants discussed their needs in uploading manifest data into the system:

- Users should have the ability to upload manifest data anytime during shipment.
- Users should have the ability to perform batch uploads easily and in a timely manner. Data validations should occur in real time for uploaded data.

[2] Refer to Section II.1.4 for discussion of this topic by Section 2 participants.
[3] Under the existing regulations, each manifest must include a unique, pre-printed MTN in Item 4.

- EPA should clarify which version of the electronic manifest is the copy of record if multiple copies exist in the system, and who is responsible for ensuring its accuracy.

Participants generally agreed that industry needs to be able to access the e-Manifest system and upload data at anytime during the shipment.

Participants discussed that batch uploads should be performed in a timely manner. If an electronic manifest within a batch contains a problem, only the problematic manifest should be rejected, not the entire batch. Ms. McDonough stated that validations must occur in real-time for uploaded data.

Participants discussed where the copy of record should be stored and generally agreed that the copy of record should be stored in the e-Manifest (*e.g.*, not in a user's legacy system). Mr. Burman asked whether the copy of record would be stored on a server at EPA or at the contractor site. Mr. Fronczak stated that Electronic Data Interchange (EDI) already has the ability to store and track the copy of record. Mr. Gray cautioned EPA against moving the e-Manifest toward a document management system. That would add many layers of complexity and cost.

Ms. Keillor suggested that the system allow generators to upload manifests in batch, once a day without requiring real-time uploads throughout the day.

I.4 Update Transporter Section of Electronic Manifest

Participants discussed their needs in updating the Transporter section of the electronic manifest:

- Transporters should be offered flexibility in how they can participate in the e-Manifest (*e.g.*, allowing the TSDF to enter information in the system on the transporter's behalf, allowing the transporter to sign the electronic manifest by telephone). In addition, EPA could explore the possibility of allowing non-automated transporters to transport electronically manifest shipments.
- Data validation and controls should be included in the system to prevent, detect and correct errors and help ensure accuracy of the data reported.

Mr. Slesinger suggested that EPA look into the e-Manifest system implemented in Canada where transporters can sign an electronic

manifest by dialing a number and entering a shipping number and a Personal Identification Number (PIN). This would eliminate the need for truckers and other transporters to upgrade their current equipment in order to support electronic signatures.

Mr. Burman stated that the transporter section should be locked until the generator signs the electronic manifest. This would strengthen the chain of custody and accountability.

Mr. Der Kinderen stated that the system needs to verify that correct data were entered by the transporter.

Mr. Moskowitz indicated that 90 percent of the trucking industry consists of small companies that may not be technologically capable to participate in the e-Manifest. Because of this, he proposed that the TSDF should be allowed to enter or scan paper information into the system for transporters, relieving them of the need to use portable devices. He also suggested that generators, TSDFs and states be allowed to access the system and update it on behalf of transporters.

Mr. Moskowitz expressed doubt that every waste handler involved in an electronically manifested shipment will be in the e-Manifest system or otherwise have access to it in all cases. He believes, however, that an Internet-based system would help to maximize user access. Mr. Appelt responded that he does not believe this is a major concern because generators and large TSDFs generally know where the waste is going before it is shipped; hence, they will know if the downstream users are automated.

Mr. Burman asked EPA to clarify the term, "shipment": does it refer to a single leg of a shipment (*e.g.*, from generator to treater) or does it mean "cradle-to-grave"? He said this clarification could be helpful to users of the system.

A number of participants discussed whether EPA should allow non-automated transporters to transport electronically manifested shipments. Some participants, for example, stated that some transporters (*e.g.*, small companies) are not sophisticated enough to participate in a cost-effective manner. They should be allowed to participate off-line. On the other hand, other participants stated that, because non-automated transporters would need to complete and retain the paper manifest, this could be confusing because it would create a dual system of paper and electronic forms. There was agreement among several participants that EPA should evaluate this issue further.

I.5 Print and Carry the Electronic Manifest

Participants discussed their needs in printing and carrying the electronic manifest on the transportation vehicle:

- The e-Manifest must be flexible enough to address real-world scenarios and give the transporter options on how to comply.
- States should standardize their manifest regulations to minimize variations that could be onerous to interstate transporters.
- Transporters should be allowed to carry an abbreviated shipping document on the truck, not the RCRA manifest.

Ms. Richardson and Ms. Keillor encouraged EPA to keep the e-Manifest system flexible to address real-world transportation situations. For example, Ms. Richardson envisions that a manifest could switch from paper to electronic format during shipment. The system should be able to handle this scenario. As another example, the system should enable close-out of the manifest if there were an incident and the waste never reached the TSDF.

Mr. Wallisch stated that a transporter transporting waste through multiple states could be subjected to different manifest requirements in each state, which could be onerous. Participants discussed the desirability for states to standardize their regulations further.

Mr. Moskowitz noted that DOT requires hazardous materials transporters to carry a DOT shipping paper in their vehicle. The DOT regulations do not require that the shipping paper include all of the elements required on the RCRA manifest. Hence, he suggested that transporters participating in the e-Manifest not be required to carry the full RCRA manifest, but an abbreviated shipping document.

A participant stated that mobile printers are not available to most transporters. Generators or TSDFs will need to print electronic manifests on their behalf when necessary.

Mr. Leary encouraged EPA to design a system that allows information to be accessed during transportation.

I.6 Update Designated Facility Section of Electronic Manifest

Participants discussed their needs in updating the Designated Facility section of the electronic manifest:

- The system should include data validation and controls to prevent, detect and correct errors and help ensure accuracy of data reported, such as controls to ensure that the electronic manifest is signed by users in correct sequence, that waste quantity estimates are correct, and that TSDFs report the correct management method code.
- EPA should make sure that users have a clear understanding of the terms "receive" and "accept" in the context of the e-Manifest.
- The e-Manifest system should enable the rejection of full and partial loads and include methods to simplify the process (*e.g.*, printing out the hardcopy manifest and noting partial rejections on it for the transporter).

Ms. McDonough stated that the e-Manifest system should ensure that the TSDF does not sign the electronic manifest until the delivering transporter signs it.

Ms. Canter proposed that the system should enable the TSDF to record the weight of every shipment it has received. This would assist in the accurate reporting of data, because generator-supplied information on the weight may not be as accurate.

Participants discussed the meaning of, differences between, the terms "receipt" and "acceptance" of waste. There was agreement that these terms could be confusing to some users (*e.g.*, "acceptance" could refer to the e-Manifest accepting an electronic manifest sent by another user, or it could refer to a TSDF that determines that a shipment meets its waste acceptance criteria for management onsite). Participants suggested that the e-Manifest clarify these distinctions for users.

Ms. Richardson stated that the e-Manifest needs to make sure that the TSDF documents the correct management method code. The system should capture what the TSDF actually does with the waste on site. Entering the management method code should not be simply a paperwork exercise, but a meaningful and accurate indication of the management method actually used on that waste.

Participants agreed on the need for the e-Manifest system to handle rejected loads (full and partial). Ms. Keillor said that TSDFs should be able

to print out electronic manifests and note which items are rejected for the transporter to return. Mr. Appelt said that transporters and TSDFs need to be able to reference previous manifests for situations when waste is forwarded. This happens when parts of a manifest are accepted and parts are rejected and a new manifest needs to be created for the rejected items. He also said that any manifest discrepancies warrant notification. Generators should get notification from the TSDF on the rejection of shipments. Rarely does rejected waste get sent back to the generator but it is important to keep it informed of the current status of the rejection. Ms. McDonough suggested that users be able to link the rejection to a particular waste line/number if appropriate.

Mr. Beaulac stated that the TSDF should not be held up by a lag in the delivery of the electronic manifest, *e.g.*, if the shipment arrives before the electronic manifest due to a technical problem in the system.

I.7 Correcting Errors Downstream

Participants discussed their needs in correcting errors in the electronic manifest: [4]

- EPA needs to establish controls and procedures governing who can change information on an electronic manifest, which fields can be changed, and when the changes can be made. In addition, EPA should decide if generator notification/authorization is needed for all downstream changes made by the transporter and TSDF.
- The e-Manifest system should keep an audit trail of changes made.
- The system should notify relevant parties of changes made to the manifest (*e.g.*, it should notify the generator if the TSDF corrects the Generator section of the form).

Mr. Appelt said that the e-Manifest should allow corrections to be made at any point in the process.

Ms. McDonough stated that the e-Manifest should provide notifications of manifest changes to relevant users so that there is a shared understanding of its contents as updates are made.

Mr. Baker stated that some changes may not necessarily need generator authorization. He suggested that EPA should identify significant changes that would require generator notification or authorization.

---

[4] Refer to Section II.2.2 for a discussion of updates to the electronic manifest by Section 2 participants.

Mr. Gray stated that only the entity currently in possession of the manifest should be able to change information. TSDFs should note discrepancies in the notes section. Mr. Moskowitz responded that allowing changes to the electronic manifest only by the entity currently in possession of it would prevent generators from fixing their errors.

Ms. McDonough stated that the transporter should have the ability to release the electronic manifest back to the generator for error corrections, but this process would not work in a paper-based system. She added that there should not be deadlines for corrections to the electronic manifest.

Participants suggested that EPA add functionality in the system to track the explicit changes to the data within the e-Manifest for audit trail purposes (*e.g.*, a document history). Participants suggested adding comment fields in the Designated Facility section to enable an audit trail.

Mr. Robbins clarified that, if a state finds an error on the manifest, it does not necessarily revise the form. Rather, it will update/correct the information contained in its own database.

Mr. Haggerty said that states could review and make corrections from a centralized system or manage it from a web portal. Either way, there needs to be a good audit trail for this system.

Ms. McDonough stated that every electronic manifest data field should be editable except for the MTN.

Mr. Burman stated his belief that users should not delete information from the electronic manifest once the shipment is in transit. In addition, he said that states should have the ability to correct information on the manifest because they often review different copies of the same manifest and identify errors.

Participants agreed that an electronic manifest must not be deleted once it is placed in transit.

I.8 Viewing and Retrieving Records in e-Manifest

Participants discussed their needs in viewing and retrieving records in the system:

- Records should be searchable by various data elements (*e.g.*, Manifest Tracking Number, Transporter ID Number, etc.).

- Handheld devices should not be required to present the electronic manifest in its entirety. A condensed version should suffice.
- The e-Manifest should indicate the most up-to-date version of the electronic manifest for users to sign.
- The e-Manifest should display electronic signatures.

Mr. Baker stated that users should be able to search for manifest records by Manifest Tracking Number. Mr. Appelt said that users should be able to search by Transporter ID Number. Mr. Robbins said that users should be able to search by Waste Stream/Profile.

Mr. Burman said that states should be able to retrieve all records (*i.e.*, a "data dump").

Mr. Baker stated that an abbreviated, condensed version of the electronic manifest should be available on handheld devices. Given the small screens of these devices, using the full manifest format would not be feasible. The electronic manifest should be viewable online or through other means. The onus is on the generator to verify that it is signing the correct electronic manifest and that the manifest is acceptable for signature.

Ms. McDonough stated that the e-Manifest should display a version number or "last updated" information to help the generator ensure it is signing the correct version.

Mr. Gray stated that the e-Manifest system should display the electronic signature of those who have signed it.

I.9 System Notifications to Users [5]

Ms. McDonough said there need to be both email notification and a system notification where users can check on the current status of their manifest in transit. Users need to have the ability to aggregate emails summarizing the events of the day/week/month. In addition, she said that there should be a notification to the generator if its waste has not been accepted or processed by the TSDF for a long period of time. TSDFs should be able to add generators to the list of entities that receive notification of late acceptance.

Mr. Robbins said that the system should identify clearly the types of notifications that are available to users.

[5] Refer to Section II.2.4 for discussion of notifications by Section 2 participants.

II. e-Manifest Administrative Requirements, Data Access Requirements, Data Quality Requirements, Legacy Systems, and User Fees

II.1 Create and Manage Accounts

II.1.1 Security Administration Structure

The participants raised the following needs for the e-Manifest system related to security administration structure:

- New users should be able to get approval to use the system quickly.
- There should be a vetting process to prevent "bad actors" from accessing the system.
- The organization administrator should be responsible for vetting users within their own companies and authorizing or terminating accounts as necessary.

The participants discussed the timeline for approving new accounts within the e-Manifest system. Mr. Griffith stated that new users should be given tentative approval, followed by verification after a vetting process. He suggested that tentative approval would be given within a day, allowing the user to access the system, but the vetting process may take up to a week, after which the person may be rejected from using the system if they are not authorized. Mr. Case stated that he thought approval would be instantaneous. The facilitator stated EPA's assumption of human interaction at the national level to vet users.

Mr. Case asked how a national administrator would verify a user's identification and authorization for use, after the company's administrator had approved access.

Mr. Griffith stated that the national administrator would be able to vet people fired from previous companies. It would be good to create a disbarred list. Mr. Dye stated that states might be interested in that information. They deal with enforcement activities, and must verify that applicants are in compliance and have no outstanding violations. This would be a way of detecting violations. States might have a role in approving users, or at least have access to this information to make sure they are in compliance.

Mr. Duckworth expressed concern that the e-Manifest system could be misused, with bad people gaining access and learning where hazardous waste is being moved around the country. Ms. Richardson said that a

user would need to input their company's EPA ID number to create or modify a manifest.

Mr. Broome said that if a company has an organization administrator, they should be able to manage the accounts held within their company. That person should be able to terminate accounts. Mr. Duckworth said that the organization administrator would take on different functions depending on the nature of the company.

Mr. Dye said they also needed to discuss the state's role in creating accounts. What is their role, other than collecting information?

II.1.2 Password/Account Security

The participants raised the following overarching needs for the e-Manifest system related to password and account security:

- Passwords should be kept continually refreshed and sufficient controls provided to prevent unauthorized access to accounts or data manipulation, but with sufficient support to prevent infrequent users from having difficulty accessing their accounts.
- System should create audit trail, *e.g.*, to track individuals accessing the system and time/date of access.
- Consent needs to be provided before a user can see another's waste shipments.
- Automated support is needed for frequently encountered issues, and an effective and timely help desk is needed.

Mr. Griffith suggested having a password refresh process every three months to ensure security. Mr. Duckworth recommended that users be able to reset their own passwords, otherwise the e-Manifest help desk will get thousands of calls. Mr. Broome cautioned that smaller shops might not have the same Internet provider from year to year (*i.e.*, would change email addresses), so constantly resetting their passwords would become difficult.

Mr. Griffith said that for account security, it is important that everybody have an EPA ID number or other unique ID number. Mr. Noggle said that not everyone has an EPA ID number, as brokers often borrow EPA IDs from others in the chain.

Mr. Broome said that there needs to be consent between organizations to see waste shipments. Not all brokers should have access to all data. Mr. Griffith agreed that users should have to give consent before other users can see their data. Mr. Broome then asked whether emergency

responders and state representatives would need separate consent, since they can see shipment data in the Central Data Exchange. Mr. Griffith said that TSDFs and transporters need access rights to create draft manifests for generators.

Mr. Broome said that there needed to be an audit trail in the system. The administrator should be able to know which users have been in the system and what they are looking at. Mr. Duckworth said they should also be able to see when the last time the data or an ID number was used. Each person also needs an EPA ID number to tie all information together. The ID is tied to the address of the property. Each site has its own ID number.

Mr. Griffith said that as long as there is a history of changes, individuals can make changes to their own user information. Mr. Broome said that companies need to be able to control which individuals use their EPA ID number. Mr. Griffith said that it should raise a flag if someone tries to change their EPA ID number, but they should be allowed to change it if it was a mistake. Their account should be blocked until that change is approved. Mr. Griffith said that it was also important that there be security questions to identify the person calling the help desk, and for refreshing passwords. Mr. Duckworth said that if a person enters a password wrong three times, they should be locked out of the system until they call the help desk. This would prevent people from sharing login information.

II.1.3 User Account Fee Structure

The participants agreed that EPA should examine the DOT model for payment structure.

The participants discussed how the creation of user accounts could affect the fee structure.

Mr. Noggle asked if the user fee was tied to the creation of user accounts. Mr. Leary said that the DOT hazardous waste registration is company-specific, not on a per-user basis, and there is a fee associated with that registration. It is all on-line and instantaneous. Each company gets a unique identification number to make payment, etc.

II.1.4 Manifest Generation Authority

The participants discussed the need for an entity other than the generator to create draft manifests on behalf of the generator.[6]

[6] Refer to Section I.2 for discussion of this topic by Section 1 participants.

Ms. Richardson said that her TSDF often completes manifests for generators, and the generators only review them for accuracy and sign them. Mr. Griffith replied that the TSDF should be able to create a draft for the generator, and then the generator would have to finalize it. Whether you are a generator or not, some users need the authority to generate draft manifests for someone other than themselves.

Mr. Case said that TSDFs need to be able to create accounts for generators, and validated in some way so they give their approval to make sure they are legitimate users. Generators will not want to do anything but authorize manifests and shipments, like they do now. Mr. Griffith disagreed, saying that given that this is hazardous waste, he would want the generator to be in charge of creating its own accounts and passwords. Mr. Green said that it is possible that small generators will not have their own computers to create accounts or manifests.

II.2 Access Data

The participants discussed which actors need to have access to data in e-Manifest at different points in the lifecycle of the electronic manifest, and came up with a recommendation:

- Draft phase: generator, and generator representative.
- In transit to acceptance by designated TSDF: principals (*i.e.*, generator, transporter, TSDF, origination state, destination state), states associated with the waste handlers, and emergency responders.
- After black-out period: principals, states, and citizens (via Freedom of Information Act (FOIA)).[7]

II.2.1 State Access

The participants discussed the role of states in accessing data from e-Manifest. Key observations included:

- EPA should consider if a transit state, or a state completely unrelated to a shipment, should have access to the manifest.
- EPA should consider if and how to limit state or other user's access to aggregate manifest data, including a TSDF's customer-related information.

[7] The "black-out period" is the period of time during which public access to an electronic manifest would be prevented. It would last until the manifest is closed out.

Mr. Griffith said he did not see the point in restricting data from certain states. He did not see why a state would object to another state seeing the data. Mr. Leary said that the states would need to know what is going through their states for emergency planning purposes. Mr. McNealy asked how transit states would know what is going through their states, because routing information is not included on the current manifest.

The facilitator asked the participants to consider what an unrelated state would use the data for, if they had access to all manifests. Mr. Griffith said that if questions arise about a TSDF, it might be valuable to know what is sent there from other states. It would not matter to him if there was a 30-day delay to get that information, but it also seems too hard to restrict the information.

Mr. Case said that while a shipment is in transit, nobody other than the principals should have access to manifests in progress. Once a manifest is terminated, any state can have access to that manifest. Questions were raised as to whether a transit state should need to be able to look up shipments in e-Manifest, and whether a roadside inspector would need to know anything more than what is on the manifest already on the truck. Mr. Griffith said a state may also want to be able to look at all the manifests handled by a transporter based in that state, to see what the company is transporting. Mr. Case disagreed because transportation routes are not very simple. A shipment could have to go to a transfer facility. Mr. Griffith said that paper manifests do not list transfer facilities.

Mr. Broome also said that draft manifests should not be available for states to view, because they could be used for training purposes or as templates.

Mr. Noggle asked whether EPA Headquarters would have access to everything in e-Manifest, and the facilitator clarified that that was EPA's assumption.

Mr. McAlister asked whether it is too complicated to restrict access to non-principal states during transit, and Mr. Griffith replied that it would make it more complicated in the Central Data Exchange because states can filter their own information.

A question was raised about whether any of the participants objected to the thousands of state employees who could potentially see where all shipments are going.

Mr. Case expressed concern that state regulators would be able to run a query to develop a TSDF's list of customers. He thought it was acceptable for the state to be able to see the quantity of waste shipped, but not the list of customers. Mr. Griffith said that he would want to be able to compare lists of shipments out of his state to other states to ensure that they arrived. Mr. Case said he thought states could look at customer lists over a year old.

Mr. Case said he objected to the ability of states to request aggregate data, but Mr. Griffith said that, as a state regulator, he would want to be able to see where shipments are going.

Mr. Case and Mr. Leary expressed the desire for other Federal agencies to need to use FOIA to access the information. They did note that some agencies may need the information in the course of their work, such as for homeland security and enforcement at ports.

Mr. Haggerty indicated the importance to his state of accessing information in the e-Manifest system and expressed that funding will be a critical factor in the state's ability to do so.

Mr. Griffith said that EPA has to ensure data in the system is easily accessible for state reporting purposes.

Mr. Dye and Mr. Broome encouraged EPA to keep the e-Manifest simple to access because states will encounter funding and staffing difficulties if the system is not easy to access.

II.2.2 Updating Data on Shipments

The participants raised the following needs for the e-Manifest system related to updating data on shipments: [8]

- Only the entity in possession of the waste should be able to make changes.
- A process is needed to notify all principals when a change has been made.
- TSDF should be able to make updates indefinitely.
- System should prevent deletion of an electronic manifest after it has reached the "ready for transport" stage.

[8] Refer to Section I.7 for discussion of corrections to electronic manifest by Section 1 participants.

Mr. Duckworth said that people should not be able to delete a record or information while a shipment is in transit, or before it is final. Ms. Richardson said that certain information should be able to be updated. For instance, transporters should be able to update contents of the shipment.

II.2.3 Organization Administrator and Internal Controls Over Draft Manifest Production

Participants discussed that, during the draft stage of the electronic manifest's preparation, organizations should have broad flexibility to determine who can be involved in accessing and updating manifests.

Ms. Richardson said that any user within an organization should be able to work on draft manifests, and Mr. Leary said that when a manifest is in draft stage, any organization representative regardless of location should be able to access it. Not everyone who creates drafts will have signatory authority.

Mr. McNealy said that the only part of the manifest that really matters on the generator side is the signature, so EPA should not be so concerned with how users interact within a company. A draft is not a regulatory concern until it is signed.

II.2.4 Notifications

The participants raised the following needs for the e-Manifest system related to notifications generated by the e-Manifest system: [9]

- The system should send notification whenever a shipment changes hands or a change is made in the manifest.
- Notifications should appear when a user opens the system and also via email.
- Users should be able to set parameters about what types of notifications to receive and how to receive them (*e.g.*, as they occur, in batches).

Mr. Broome said that the system should generate notifications when a user opens the system, and also via email. If all notifications are sent to the organization administrator, he or she would then route email notifications to the appropriate person responsible for that manifest.

The participants agreed that notifications are needed whenever a shipment changes hands. Mr. Broome said that the TSDF would not need

[9] Refer to Section I.9 for discussion of notifications by Section 1 participants.

to know where a shipment is until it gets there, but the generator might want to know. Mr. Griffith said that in some organizations, multiple people will want to be able to view updates, so that should be an option.

Mr. McAlister said that the system should be able to give the option of sending certain types of notifications, but not make it required. They may also want to include a notification if the shipment does not arrive, or if it is delinquent. That notification for the generator would not be optional.

II.3 Extract Data

Participants discussed their data extraction needs:

- The system should have the capability to do bulk downloads.
- The system should include an update-only feature.
- Users should be able to extract Portable Document Format of final manifest, pre-established reports, and flat files containing raw data.

With the assumption that users can always pull up the records for their own company, the participants discussed the options and limitations that should be placed on accessing and downloading raw data from e-Manifest.

Mr. Griffith said that raw data should be restricted to EPA only. Reports are a screening tool that access raw data. Mr. LaShier said that he would want the generator to be able to view a Portable Document Format (PDF) of the final manifest copy.

Several participants said they would want a bulk download feature to look at all of their records, as well as an update feature. Mr. Griffith said that he would want to be able to view data in a variety of formats.

Mr. Broome said that there could be brokers, comparable to EDI Value Added Networks, to download data, so many options should be left open.

Mr. Griffith said the e-Manifest should be linked to RCRAInfo for verification.

II.4 Report and Query System

The participants expressed the need for the following types of queries, reporting functions, and reports that should be available for principals and states:

- Generator should see what shipments have changed hands.
- Principal should be able to get copy of each manifest.
- Generator should be able to view shipments not delivered within 25 days, and other exceptions.
- The system should be able to generate reports quickly.
- Graphical representations of the manifest in transit would be helpful, with recent history.
- The system and its reports should be 508 compliant.
- Users need audit information and exception reports.
- States need to be able to see tonnage by generator.
- Users need a function to convert all quantities to pounds.
- States need to have same alerts as principals.
- States need to be able to see reporting irregularities.
- System administrator needs to be able to query system errors.

Mr. Broome said that e-Manifest should include audit information and tools to track user activity. He would like to be able to list all users by activity and date.

Ms. Richardson said she would want to be able to see exception reports, and build it to accommodate more than 6 waste codes, to feed into the Biennial Report in the future. She also said that Land Disposal Restrictions (LDRs) are also done by paper, so they would have to send those separately under the e-Manifest.

Mr. Green said that a state would want to see reports of tonnage by generator, because that is how states assess fees. They would want to capture what has been manifested, because right now they have paper reports for weight or volume. They need to have something to allow everything to be converted into pounds because fees are based on tonnage. The manifest does not have a place to enter specific gravity.

Mr. Broome said that the administrator would want to be able to query system errors to determine if there is a denial of service attack stopping other people from using site.

II.4.1 Customer Lists

The participants discussed the question of states being able to generate customer lists from information in e-Manifest:

- States should be able to access all data related to generators, TSDFs, or other others involved in a transaction if the entity is headquartered in the state. The least complicated way to do this would be to allow states access to all data.
- Industry is worried about states being able to develop a customer list that could be released to competitors. Industry proposed to address this issue by restricting queries within a date range to prevent states from developing a customer list for current/recent transactions.

Mr. Case suggested making a restriction that states cannot query all the generators that use a TSDF. Mr. Green disagreed, saying that states need to be able to assess fees based on waste received. There is an in state and out of state fee, so they would need to know the generator state to assess the correct fee. That information is already available under state sunshine laws.

Mr. Dye said that it also depends on how the information is asked for. E-Manifest should not deny access to records, but it also should not generate a report for them. Mr. Green said this approach would not prevent them from making quarterly reports for tonnage.

II.4.2 Emergency Responders

Participants discussed the needs of emergency responders:

- In general, other information sources will be more effective for emergency responders than the e-Manifest system.
- Nonetheless, information in the system should be made available if it would help an emergency response.
- In the future, adding information about the transport vehicle to the manifest could make the system more useful for emergency responders.

Mr. Noggle asked, with regard to shipments that catch fire, how emergency responders know what the shipment is if the manifest is lost or destroyed. Ms. Richardson said that they would have to go back to the transporter's main office to find what was on the vehicle.

Mr. Leary said that the incident responder will not have access to e-Manifest but will need to get information from a public service answering point or dispatcher. If the incident responder can get the name of the transporter, they can get some general information.

Ms. Richardson suggested having a field in e-Manifest for the truck number. Rail companies already track everything by rail car number. Emergency responders would need a field that links a manifest to a specific transit vehicle.

Mr. Leary said that outside vendors that have a 24-hour answering service for transporters should have access. The incident responders would need their own accounts to access e-Manifest for emergency situations.

Mr. McNealy said that hazardous waste is only a small subset of DOT hazardous materials, so how would emergency responders know the difference? This is a training issue, because they would need to know that e-Manifest is only for hazardous waste.

Mr. Broome raised the question of what happens when an electronic manifest is only in draft stage, but is in a paper form on the truck because the generator or transporter was unable to utilize the e-Manifest system beyond that point.

Mr. Burman said that EPA needs to watch out for false positive notifications for emergencies. The system must include first responders in notification groups.

II.5 Archiving

Participants discussed the needs regarding archiving:

- Ideally, the system should keep all records forever.
- Records related to an enforcement action need special treatment.
- Some users will want the ability to archive their own records in bulk.

Mr. Griffith said that the system should be able to retain records indefinitely that are part of an enforcement action. Ms. Richardson suggested adding a checkbox to the record to prevent it from being deleted if part of an investigation.

Mr. Dye said that with the paper manifest system, the facility is required to maintain the records, and Mr. Broome said that with e-Manifest, the burden to maintain records would go to the system, since that is where the information would be kept.

Mr. Dye said that current regulations are related to the paper forms, not electronic ones. Archiving questions will have to be reviewed by regulators.

Ms. Richardson said she would want to archive in bulk. Mr. Griffith said that e-Manifest should just keep everything, because the cost of data storage is so low. Mr. Leary said that this would shift the burden of storage to EPA. States may have different rules about that.

II.6 National Operator/System Administrator Functions

The participants discussed the requirements and responsibilities for the national operator of the e-Manifest system:

- Operator needs to enter data from paper manifests.
- Operator needs to collect comments and suggestions from users, and disseminate useful information (*e.g.*, statistics on usage).
- Operator needs to create a system for notifying users ahead of time when upgrades are to be made. Notifications should come early, with clear information, and there should be a period to try the improved system before it 'goes live.'
- Updates and improvements to e-Manifest should be made without disruption in operation.

Mr. Griffith said that the operator would need to type in data from paper manifests.

Mr. Leary said that they should be required to report back to the governing board. There should be transparency to the structure, so that it appears that EPA is operating the system. There should also be a comment collecting function to collect feedback and suggestions from users.

Mr. Broome suggested that the operator be a source for national summary statistics on the usage of the system.

Mr. Leary said the operator should also be responsible for creating system notifications when changes are to be made.

Mr. Broome said that EPA and the national operator should take steps to upgrade and improve the e-Manifest system without disrupting its operation. Mr. Griffith suggested that the operator actively inform people before changes will be made.

II.7 Manage Reference Data

The participants discussed the type of reference data that would be desired in e-Manifest:

- Hazardous Materials Table at 49 CFR 172.101.
- Manifest Instructions at Appendix A of 40 CFR 262.
- Standardized values and units associated with data.
- Site/facility information (*e.g.*, EPA ID and state ID numbers).
- Waste codes, management method codes, etc.
- Metadata for start and end dates for waste codes.

Mr. Baker said that for users generating manifests, it would be good to have access to the table at 49 CFR 172.101 which lists proper shipping names and descriptions. The Federal Register has it online and it is searchable. There should also be links to Appendix A of 40 CFR Part 262 and a list of marine pollutants tab.

Ms. McDonough suggested having standardized values and units associated with data entered into the e-Manifest, which are already on the paper manifest.

Mr. Robbins said e-Manifest should validate the EPA ID and state ID numbers against a valid list, but there could be difficulties with real time data management.

Mr. Baker suggested having management method codes for the TSDF, and form and source does for future integration with the Biennial Report.

Mr. Gray said that in Region 8, if they find bad data, a data entry person fixes it immediately. Mr. Burman suggested that this could be a performance management function of the system operator. After being informed of changes to data sets, they need to have a set time to make updates. Different states might have different waste codes, so it would be useful to have drop-down menu for the generator state so that it would pre-select data for the generator state. Ms. McDonough said that some states may not have waste codes for all waste, so it should also allow the receiving state's list of waste codes to come up.

Mr. Griffith said that it would be valuable to create templates for people who repeatedly ship the same waste.

Ms. McDonough said the system needs to have metadata for start and end dates for waste codes, because they can change over time. They should not be deleted from the system even if they are out-of-date.

Mr. Burman said it would also be good to keep track of active and inactive sites, to see if inactive sites are still shipping waste.

Mr. Griffith said that states are currently required to maintain their own data in RCRAInfo, and this should keep it at the state level so they have to maintain their own data. Ms. McDonough said that updates to data occur rarely.

Mr. LaShier said that the system needed to be able to accommodate conditionally exempt small quantity generator (CESQG) users that do not have an EPA ID number. Other participants agreed, saying that users should be able to override the drop-down menus and enter "none" for the ID number. The user is legally responsible for reporting accurate information. The data set for EPA ID numbers is always incomplete because new numbers are constantly being added, so there would need to be a write-in capability. But the system should also go back to check write-ins versus new numbers entered into the system to catch errors.

Ms. McDonough said she did not like the idea of being able to delete manifests. They need to be kept in order of creation.

II.8 Performance Metrics

The participants agreed on various performance metrics for the national operator:

- Up-to-date resource data.
- Rapid response time between entering in different fields of data.
- Multiple ways to enter data, like phone connections.
- Problem correction response time or glitch correction.
- Ticketing system for error help.
- Notice of scheduled central maintenance or updates.
- Continuous updates to add new capabilities.
- Code repository in case contractor changes.
- Frequent data backups and refresh.
- Batch uploads should only reject problem manifests.
- Ability to have both scheduled and ad hoc reports.
- 24-hour access, especially for transporters and emergency responders.

Mr. Baker suggested that users not connected to the Internet should be able to print the manifest, and upload it later to e-Manifest. There need to

be standards for how long is too long to wait to upload it, especially if it is not the system's fault that the information is not there but the user's fault.

Ms. Keillor suggested that when uploading in batches, e-Manifest should accept everything except the manifests with problems, not reject the whole batch. She also suggested having the ability to turn off multiple warnings and sort them.

Mr. Hammerberg said there should be good speed for generating reports. Mr. Griffith said that the dashboard would give a good overall picture, so reports are not that time-sensitive. But they would want to know how long it will take to generate reports. Mr. Robbins said he would also want the ability to have both scheduled reports and ad hoc reports.

Mr. Griffith suggested that resource data should be updated at the end of the day, or scheduled if they know about updates in advance.

Mr. Slesinger suggested that the dashboard list upcoming changes to the system, such as states accepting new waste codes.

Several participants were concerned about how long it should take to generate a manifest given the response time of the system to fill in each required field. Mr. Case said that the contractor would use a state-of-the-art system that works quickly, because it is in their best interest to attract the most users.

Ms. McDonough said that when a TSDF is uploading data at the end of the day, they need to be able to validate it line by line, but not have it take hours.

Participants also agreed that transporters would essentially need 24/7 access to e-Manifest, but that it would be best if the system sets aside scheduled maintenance hours if necessary. Access would also be relevant for emergency response.

For shipments called in by phone, the system will have to accept phone calls without Global Positioning System (GPS), because not all cell phones have it. Maybe it would require the user to type in the zip code, or answer a challenge question. The system should not accept cell phone numbers that are blocked.

II.9 Data Quality

Participants discussed features the system should have to ensure data quality:

- Automatic fill-in of some information when EPA ID is entered.
- Link to Hazardous Materials Table at 49 CFR 172.101.
- Validate management method codes.
- Allow manual over-ride.
- Avoid duplicate uploads.

Mr. Broome suggested that when the EPA ID is populated, other information be filled in automatically. Mr. Griffith suggested that if a user is associated with multiple IDs, the system should allow for a drop-down menu of recently used IDs. Mr. Wallisch said that e-Manifest should be able to accommodate temporary ID numbers.

Ms. Richardson suggested having a link to the CFR table, where entering the United Nations (UN) number would populate everything else, with the ability to override it. Mr. Griffith suggested that there should be drop-down lists for recently used transporters and templates for UN numbers. Ms. McDonough said it would also be good if the system could "forget" previously used entries in case of mistypes.

Mr. Gray said that every manifest tracking number has to be unique and assigned when the generator goes in to create a manifest. How would that work with templates? Ms. Richardson said the system needs to accommodate the purchase of numbers if the person is not online.

Mr. Burman said that there needs to be a simple validation at the time of upload to ensure that batch uploads do not create duplicate manifests.

Ms. Canter said that the system should validate the use of management method codes. The system should flag it being left blank, though this is not a fatal error because some wastes do not require it. It would be a fatal error if federal codes are left out because they are required.

Ms. McDonough suggested that there should be a general requirement that there cannot be more than one type of waste in a single manifest line (*i.e.* drums and bottles).

The participants also discussed the error alerts that the system might generate. Ms. Keillor suggested that a user would want to be able to turn off the error alerts to get through the manifests faster, and Mr. Griffith said that errors should be at different levels depending on the error. He also

suggested having discrepancy indications line by line to deal with rejected loads.

Additionally, the participants discussed who would review the data in e-Manifest. Mr. Appelt said that TSDFs often review it, and will catch most of the problems. Mr. Slesinger said that states generally do not look at the data now, so they probably will not look at it much more in electronic format.

Ms. McDonough said she felt the only scenario in which a non-custodian can change a manifest would be if something happens to waste in transit. Then the regulator would be able to make changes.

Mr. Broome suggested that for the audit trail, users would have to include a reason for making changes, which would include both a drop-down menu and a write-in field.

II.10 Legacy Systems

Participants discussed their needs for integrating their legacy systems into the e-Manifest:

- EPA must ensure that users can integrate their existing business processes and legacy systems into the e-Manifest as easily and efficiently as practicable.
- EPA should build the system so that it requests existing reference data and draws from data sources that are readily available and familiar to users.
- The e-Manifest should keep track of the origin of data imported into it, as this will help ensure data integrity.
- EPA and its contractor should use prevailing industry standards in designing and developing the system.

Mr. Baker urged EPA to ensure that users can integrate their existing business processes and systems into the e-Manifest easily and efficiently. The e-Manifest must enable data-sharing with states so they do not have to operate redundant systems.

A participant encouraged EPA to build the e-Manifest so that it requests reference data that are readily available and familiar to users. The system should interact with existing data sources that users currently use. This will help reduce burden on users when integrating their legacy systems with the e-Manifest. Mr. Griffith agreed that EPA needs to design the system to reduce users' burden and redundancy on data that are submitted.

Mr. Dye encouraged EPA to design the system so that it interacts efficiently with users' legacy systems. He said EPA should optimize this interaction by identifying users' needs and the necessary design requirements to satisfy them (*e.g.*, sufficient bandwidth, efficient file-sharing methods).

Ms. McDonough suggested that the system needs to keep track of the origin of data imported from legacy systems. The ability to backtrack to the originating legacy system (*e.g.*, in the case of an uploaded batch) is important for data integrity. In addition, EPA should consider applying data validation measures to all modes of data importation into the system.

Mr. Duckworth said that as long as EPA uses prevailing industry standards, the majority of legacy systems will interoperate with the e-Manifest. Mr. Griffith suggested that EPA consider the use of American National Standards Institute (ANSI) standards.

II.11 User Fees

Participants discussed their views on the user fees to be collected:

- EPA should consider how to set the fees in light of various issues raised by participants (*e.g.*, should the fee be based on a sliding scale? Should it be based on tonnage, number of manifests, etc.?).
- EPA should consider who should pay the fee (*e.g.*, should users of solely the paper manifest or states that access the system pay a fee?).

Mr. Burman raised questions affecting how the fee could be structured. For example, will the fees be static? Will they be adjusted annually? He also suggested that EPA consider the fee's effects on industry's waste generation and minimization efforts.

Mr. LaShier stated that the IT contractor will be responsible for setting fees and adjusting them periodically. He also stated that there needs to be an incentive for users to reduce waste.

Mr. Burman also raised questions about the financial viability of the e-Manifest if difficulties arise (*e.g.*, could the e-Manifest run out of funding?).

Mr. Fronczak stated his belief that railroads should not pay a fee if they do not access the system.

Mr. Robbins raised questions about whether the fee should be based on use scenarios, such as whether the user manifests non-hazardous waste or hazardous waste, or uploads his manifests instead of creating them within the system.

Ms. Rio expressed concern that users of the paper manifest would be charged fees by the system.

Ms. Keillor suggested that EPA consider how the states levy fees.

Mr. Baker said that EPA needs to eliminate the potential duplication with states that assess fees for shipments of hazardous waste.

Ms. Richardson said that Canada charges five dollars for every manifest. She discussed a sliding scale based on relevant parameters (*e.g.*, number of manifests prepared/transmitted, waste tonnage).

A participant suggested that states should be considered "users" for purposes of assessing fees.

III. Other Comments on e-Manifest System

Participants raised a number of comments that are not addressed in the previous chapters of this document. They are primarily overarching comments that apply broadly to the e-Manifest as a whole:

- EPA should coordinate development and operation of the e-Manifest with DOT.
- EPA should consider the trade-offs between 1) developing a single e-Manifest system versus multiple, optional systems and 2) contracting with one vendor versus multiple ones.
- EPA should continue to consider other approaches for automating the manifest as needed to simplify implementation and compliance, reduce costs, and take advantage of existing technologies.
- The e-Manifest should be designed to be flexible enough to address the wide variation in shipment scenarios and needs (*e.g.*, intermodal shipments).
- EPA should integrate its other reporting requirements (*e.g.*, Biennial Report) into the e-Manifest at the earliest practicable time.
- EPA should consider funding alternatives that take advantage of the potential savings that users and states will derive from the system.

- The railroad industry would like for EPA to map the e-Manifest to the industry's existing EDI systems so they can interoperate. It would also like for EPA to relieve the rail industry of signature and recordkeeping requirements for the e-Manifest, as specified.

Mr. Conley stated that EPA should coordinate with DOT in developing the e-Manifest.

Mr. Baker suggested that EPA consider an alternate approach for the e-Manifest in which the paper manifest is used during shipment and the designated TSDF scans and uploads an electronic version into a central repository. This would relieve generators and transporters from the need to interact with the electronic system. It also would make the final manifest available in electronic format to EPA, states and industry.

Mr. Beaulac suggested that EPA contract with one vendor to design a single, uniform e-Manifest system. He recommended that Extensible Markup Language (XML) be used because it is easy to use and customizable.

Mr. McNealy asked that EPA reconsider the idea of developing a single e-Manifest system because he believes that competition from different vendors would help to develop better systems. Ms. Irwin agreed that EPA should not tie itself down to one technology because of the many complexities facing the shipping industry (*e.g.*, international regulations). EPA should consider tapping into existing systems that can address some of the manifesting needs.

Mr. Wallisch noted that some entities within the hazardous waste industry are not typical buildings, but non-standard types of structures (*e.g.*, manholes that periodically generate hazardous waste). He asked EPA to keep this in mind as it develops the system.

Mr. Appelt and Ms. Richardson encouraged EPA to integrate its other regulatory reporting requirements (*e.g.*, Biennial Report) into the e-Manifest system at the earliest practicable time. Mr. Appelt said this should be a priority. Such integration would result in a large burden reduction to industry and the states. Participants asked if EPA intends to integrate the Land Disposal Restrictions (LDRs) paperwork into the e-Manifest system.

Mr. Broome stated his preference for a completely paper or completely electronic system and not a mix of both. A mix of both would increase the burden on states and others to track and transfer the information.

Mr. Duckworth said that carriers want to avoid the signature requirements. The DOT regulations require it, but he wondered if the signatures were required in the e-Manifest system. Rail and trucking industries already have electronic records of who picked up what, but actual signatures are a throwback. Mr. McAlister said that signatures are part of the legal framework and cannot be changed.

Mr. McNealy said the greatest value lies with the states and eliminating a large volume of paper. He suggested that EPA consider funneling the potential savings from the states into funding the system. Mr. Griffith responded that there will be some savings by implementing the e-Manifest system, but not as much as Mr. McNealy expects. .

The participants generally agreed that the e-Manifest system should be able to accommodate intermodal shipments, as well as shipments that are consolidated and broken down en route.

Mr. Fronczak stated that the vast majority of chemicals shipped by railroads is hazardous material, of which a small subset is hazardous waste. It is therefore not cost-effective for them to make significant changes to their shipping operations for such a small portion of their shipments. Rather, they would like for EPA to integrate the railroads' existing Electronic Data Interchange (EDI) processes into the e-Manifest approach. Extensible Markup Language is not popular with railroads, *e.g.*, because they have traditionally used EDI.

Representatives of the rail industry expressed their desire for the e-Manifest system to be mapped to their existing EDI transaction sets (transaction set 404). There are some data elements on the manifest that are not on their transaction set (*e.g.*, Manifest Tracking Number). They would like to see the data elements from the e-Manifest mapped to their existing EDI transaction set so that the systems can interoperate.

The representatives stated that, if EPA allows railroad companies to continue use of EDI as part of the e-Manifest approach, they would like to provide shipment-related information to EPA "on demand." This would be preferable over a system that provides continuous information to EPA.

In addition, they explained that the railroads use a transponder system to keep track of the location and time of shipments. As a railcar moves along the rails, the transponder system captures the location/time of the moving car at various points along the rail. In addition, user identification information can be retrieved, which can be traced to an individual. Hence, the railroads believe that this information should substitute for a

signature on the electronic manifest. Mr. LaShier responded that EPA enforcement personnel would want an individual person to be held accountable for the shipment, not a corporation.

Mr. Conlon expressed his belief that railroads should not be required to complete Item 16 of the manifest, which applies to international shipments. Specifically, it requires the transporter's signature and information on the import/export (*e.g.*, date of export). Mr. Conlon said that the railroad's transponder system captures comparable information as the shipment crosses over national borders (*e.g.*, date/location of export from the U.S.). Therefore, Item 16 is not needed for them.

The representatives expressed their belief that railroads do not need to retain a copy of the electronic manifest signed by the next non-rail transporter or TSDF. They noted that the e-Manifest system would retain all of these forms. In addition, the railroads retain shipment records to satisfy DOT requirements and do not need to access the e-Manifest for records.

IV. Next Steps

At the end of the meeting, Mr. LaShier stated that a contractor would prepare a meeting summary and send it to participants. The contractor then would support EPA in holding a series of teleconferences with participants to discuss the summary and request further clarification on particular issues as needed. Based on the meeting and calls, EPA and its contractor would prepare a report that lays out participants' recommendations for the design, development, and operation of the e-Manifest system.

Table of Meeting Participants

Name	Organization	Phone Number	Email
Dan Appelt	Safety-Kleen	847.468.6720	Dan.Appelt@safety-kleen.com
Tom Baker	Veolia ES Technical Solutions	973.691.7530	tom.baker@veoliaes.com
Mike Beaulac	Michigan Department of Environmental Quality	517.241.7808	beaulacm@michigan.gov
Jonathan Broome	EQ, The Environmental Quality Company	734.576.0182	jonathan.broome@eqonline.com
Joshua Burman	Minnesota Pollution Control Agency	507.344.5243	Joshua.Burman@state.mn.us
Paula Canter	Ohio Environmental Protection Agency	614.644.2923	paula.canter@epa.state.oh.us
David Case	Environmental Technology Council	202.783.0870	dcase@etc.org
John Conley	National Tank Truck Carriers	703.838.1960	jconley@tanktruck.org
Peter Conlon	Kansas City Southern Railway	719.485.1500	rtca@fone.net
Dirk Der Kinderen	U.S. Department of Transportation	202.366.8553	dirk.derkinderen@dot.gov
Charlie Duckworth	Union Pacific Railroad	402.544.9035	CADuckworth@up.com
Butch Dye	Maryland Department of the Environment	410.537.3343	bdye@mde.state.md.us
Robert Fronczak	Association of American Railroads	202.639.2839	rfronczak@aar.org
Martin Gray	Utah Department of Environmental Quality	801.538.6819	martygray@utah.gov
David Green	Missouri Department of Natural Resources	573.751.3209	david.green@dnr.mo.gov
Jack Griffith	Florida Department of Environmental Protection	850.933.5214	John.Griffith@dep.state.fl.us
Bryan Groce	U.S. Environmental Protection Agency	703.308.8750	Groce.bryan@epa.gov
Robert Haggerty	New York State Department of Environmental Conservation	518.402.8712	rjhagger@gw.dec.state.ny.us
Edward Hammerberg	Maryland Department of the Environment	410.537.3345	ehammerberg@mde.state.md.us
Jim Henley	Union Pacific Railroad	402.544.9165	JHHENLEY@up.com
Margaret Irwin	American Trucking Association	703.838.1745	mirwin@trucking.org
Richard Jackson	District of Columbia Department of the Environment	202.535.2290	richard.jackson2@dc.gov

Name	Organization	Phone Number	Email
Melinda Keillor	EQ, The Environmental Quality Company	734.576.0112	melinda.keillor@eqonline.com
Richard LaShier	U.S. Environmental Protection Agency	703.308.8796	Lashier.rich@epa.gov
Kevin Leary	U.S. Department of Transportation	202.366.8553	kevin.leary@dot.gov
Wanda LeBleu	U.S. Environmental Protection Agency	703.308.0438	Lebleu.wanda@epa.gov
Ben Lesser	U.S. Environmental Protection Agency	703.308.0314	Lesser.ben@epa.gov
Laura Lopez	U.S. Environmental Protection Agency	703.308.8482	Lopez.laura@epa.gov
Frank McAlister	U.S. Environmental Protection Agency	703.308.8196	Mcalister.frank@epa.gov
Beth McDonough	Massachusetts Department. of Environmental Protection	617.574.6895	beth.mcdonough@state.ma.us
Steve McNealy	Kansas City Southern Railway	816.769.8254	SMcNealy@KCSouthern.com
Richard Moskowitz	American Trucking Association	703.838.1705	rmoskowitz@trucking.org
Bill Noggle	U.S. Environmental Protection Agency	703-347-8769	Noggle.william@epa.gov
Susan Richardson	Clean Harbors	410.244.8200	richardsons@cleanharbors.com
Filipa Rio	Alliance of Automobile Manufacturers	202.326.5551	Frio@autoalliance.org
David Robbins	CH2M HILL, Dow Chemical Company	979.235.7393	DRRobbins@dow.com
Scott Slesinger	Environmental Technology Council	202.783.0870	sslesinger@etc.org
John Tully	U.S. Environmental Protection Agency	703.308.8199	Tully.john@epa.gov
Aaron Wallisch	Utility Solid Waste Activities Group	202.344.4474	awallisch@venable.com